

We claim:

1 A chip for functional genomics for DNA testing and which holds DNA samples comprising, in combination:

a silicon base,

5 an oxide layer on the base, and

a hydrophobic fluorene polymer coating on said oxide layer,

said coating having openings therethrough down to said oxide layer for holding DNA samples.

10 2. The chips of claim 1 wherein said coating is substantially 100 Å.

15 3. The chip of claim 1 wherein said openings in said coating have been formed using a positive photoresist.

4. The method of forming a chip from a silicon substrate for holding DNA samples comprising the steps of:

forming an oxide layer on the substrate,

forming a hydrophobic fluorene polymer coating on said substrate, and

20 etching away said coating down to said oxide layer in spaced apart positions to hold separate samples.

5. The method of claim 4 wherein said step of forming said coating includes the steps of applying a coating of said polymer on said oxide layer and positioning said polymer coated surface of said substrate close to but not in contact with a baking plate, incrementally moving said coated surface and baking plate into full contact and holding the
5 contact to bake the polymer coating on said oxide layer.

6. The method of claim 4 wherein said etching step includes a positive resist process.

10 7. The method of claim 5 wherein said etching step includes a positive resist process.